

NSWER 58 OF 68 USPATFULL

ACCESSION NUMBER: 1998:101389 USPATFULL  
 TITLE: Stabilized gas emulsion containing phospholipid for  
 ultrasound contrast enhancement  
 INVENTOR(S): Trevino, Leo A., San Diego, CA, United States  
 Schutt, Ernest George, San Diego, CA, United States  
 Klein, David H., Carlsbad, CA, United States  
 Tarara, Thomas E., San Diego, CA, United States  
 Weers, Jeffry G., San Diego, CA, United States  
 Kabalnov, Alexey, San Diego, CA, United States  
 PATENT ASSIGNEE(S): Alliance Pharmaceutical Corp., San Diego, CA, United  
 States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5798091		19980825
APPLICATION INFO.:	US 1995-395680		19950228 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1994-284083, filed on 1 Aug 1994, now patented, Pat. No. US 5605673 which is a continuation-in-part of Ser. No. US 1993-99953, filed on 30 Jul 1993, now patented, Pat. No. US 5414600		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Hollinden, Gary E.		
LEGAL REPRESENTATIVE:	Knobbe, Martens Olson & Bear, LLP		
NUMBER OF CLAIMS:	35		
EXEMPLARY CLAIM:	17		
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	1930		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			

L10 ANSWER 59 OF 68 USPATFULL

ACCESSION NUMBER: 1998:19426 USPATFULL  
 TITLE: Systems for the formation of microbubbles  
 INVENTOR(S): Schutt, Ernest G., San Diego, CA, United States  
 Anderson, Charles David, Lebanon, NJ, United States  
 Evitts, David P., La Jolla, CA, United States  
 PATENT ASSIGNEE(S): Alliance Pharmaceutical Corp., San Diego, CA, United  
 States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5720938		19980224
APPLICATION INFO.:	US 1995-476079		19950607 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1994-284083, filed on 1 Aug 1994, now patented, Pat. No. US 5605673 which is a continuation-in-part of Ser. No. US 1993-99951, filed on 30 Jul 1993, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Hollinden, Gary E.		
LEGAL REPRESENTATIVE:	Knobbe, Martens, Olson & Bear		
NUMBER OF CLAIMS:	46		
EXEMPLARY CLAIM:	1,20		
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	1868		

L10 ANSWER 60 OF 68 USPATFULL

ACCESSION NUMBER: 1998:4213 USPATFULL

TITLE: Phase shift colloids as ultrasound contrast agents  
INVENTOR(S): Quay, Steven C., Pacific Palisades, CA, United States  
PATENT ASSIGNEE(S): Sonus Pharmaceuticals, Inc., Bothell, WA, United States  
States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5707606		19980113
APPLICATION INFO.:	US 1995-467304		19950606 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1993-8172, filed on 25 Jan 1993, now patented, Pat. No. US 5558855		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Hollinden, Gary E.		
LEGAL REPRESENTATIVE:	Limbach & Limbach L.L.P.		
NUMBER OF CLAIMS:	4		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1930		

L10 ANSWER 61 OF 68 USPATFULL  
ACCESSION NUMBER: 97:114912 USPATFULL  
TITLE: Stable microbubble precursors  
INVENTOR(S): Schutt, Ernest G., San Diego, CA, United States  
Anderson, Charles David, Lebanon, NJ, United States  
Evitts, David P., La Jolla, CA, United States  
PATENT ASSIGNEE(S): Alliance Pharmaceutical Corp., San Diego, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5695741		19971209
APPLICATION INFO.:	US 1995-486531		19950607 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1994-284083, filed on 1 Aug 1994, now patented, Pat. No. US 5605673 which is a continuation-in-part of Ser. No. US 1993-99951, filed on 30 Jul 1993, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Hollinden, Gary E.		
LEGAL REPRESENTATIVE:	Knobbe, Martens, Olson & Bear LLP		
NUMBER OF CLAIMS:	76		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	1960		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 62 OF 68 USPATFULL  
ACCESSION NUMBER: 97:61439 USPATFULL  
TITLE: **Thrombolytic** agents and methods of treatment for **thrombosis**  
INVENTOR(S): Porter, Thomas R., Omaha, NE, United States  
PATENT ASSIGNEE(S): The Board of Regents of the University of Nebraska, Lincoln, NE, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5648098		19970715
APPLICATION INFO.:	US 1995-544204		19951017 (8)
DOCUMENT TYPE:	Utility		

FILE SEGMENT: Granted  
PRIMARY EXAMINER: Hulina, Amy  
LEGAL REPRESENTATIVE: Zarley, McKee, Thomte, Voorhees, & Sease  
NUMBER OF CLAIMS: 22  
EXEMPLARY CLAIM: 1  
LINE COUNT: 509  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 63 OF 68 USPATFULL

ACCESSION NUMBER: 97:51700 USPATFULL  
TITLE: Stabilized microbubble compositions  
INVENTOR(S): Schutt, Ernest G., San Diego, CA, United States  
Evitts, David P., La Jolla, CA, United States  
Kinner, Rene Alta, San Diego, CA, United States  
Anderson, Charles David, Lebanon, NJ, United States  
Weers, Jeffry G., San Diego, CA, United States  
PATENT ASSIGNEE(S): Alliance Pharmaceutical Corp., San Diego, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5639443		19970617
APPLICATION INFO.:	US 1995-405447		19950316 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1993-99951, filed on 30 Jul		

DOCUMENT TYPE: 1993, now abandoned  
UTILITY  
FILE SEGMENT: Granted  
PRIMARY EXAMINER: Burn, Brian M.  
ASSISTANT EXAMINER: Cebulak, Mary  
LEGAL REPRESENTATIVE: Knobbe, Martens, Olson & Bear  
NUMBER OF CLAIMS: 52  
EXEMPLARY CLAIM: 1  
LINE COUNT: 1497  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 64 OF 68 USPATFULL

ACCESSION NUMBER: 97:38180 USPATFULL  
TITLE: Ultrasound imaging method using microbubbles  
INVENTOR(S): Schutt, Ernest G., San Diego, CA, United States  
Anderson, Charles D., Lebanon, NJ, United States  
Evitts, David P., La Jolla, CA, United States  
PATENT ASSIGNEE(S): Alliance Pharmaceutical Corp., San Diego, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5626833		19970506
APPLICATION INFO.:	US 1995-480853		19950607 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1994-284083, filed on 1 Aug 1994 which is a continuation-in-part of Ser. No. US 1993-99951, filed on 30 Jul 1993, now abandoned		

DOCUMENT TYPE: Utility  
FILE SEGMENT: Granted  
PRIMARY EXAMINER: Hollinden, Gary E.  
LEGAL REPRESENTATIVE: Knobbe, Martens, Olson & Bear  
NUMBER OF CLAIMS: 19  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 2 Drawing Page(s)  
LINE COUNT: 1762

L10 ANSWER 65 OF 68 USPATFULL

ACCESSION NUMBER: 97:15836 USPATFULL

TITLE:

INVENTOR(S):

Stabilized microbubble compositions for ultrasound  
Schutt, Ernest G., San Diego, CA, United States  
Anderson, Charles D., Lebanon, CA, United States  
Evitts, David P., La Jolla, CA, United States  
Alliance Pharmaceutical Corp., San Diego, CA, United States (U.S. corporation)

PATENT ASSIGNEE(S):

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5605673		19970225
APPLICATION INFO.:	US 1994-284083		19940801 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-99951, filed on 30 Jul 1993, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Burn, Brian M.		
ASSISTANT EXAMINER:	Cebulak, Mary C.		
LEGAL REPRESENTATIVE:	Knobbe, Martens Olson & Bear		
NUMBER OF CLAIMS:	82		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	2000		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 66 OF 68 USPATFULL

ACCESSION NUMBER: 97:5709 USPATFULL

TITLE:

INVENTOR(S):

Method for preparing storage stable colloids  
Quay, Steven C., Pacific Palisades, CA, United States  
Sonus Pharmaceuticals, Bothell, WA, United States  
corporation)

PATENT ASSIGNEE(S):  
(U.S.

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5595723		19970121
APPLICATION INFO.:	US 1993-148284		19931108 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-8172, filed on 25 Jan 1993		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Prior, Kimberly J.		
ASSISTANT EXAMINER:	Cebulak, Mary C.		
LEGAL REPRESENTATIVE:	Limbach & Limbach L.L.P.		
NUMBER OF CLAIMS:	31		
EXEMPLARY CLAIM:	1		
LINE COUNT:	2862		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 67 OF 68 USPATFULL

ACCESSION NUMBER: 96:87349 USPATFULL

TITLE:

INVENTOR(S):

Phase shift colloids as ultrasound contrast agents  
Quay, Steven C., Pacific Palisades, CA, United States  
Sonus Pharmaceuticals, Bothell, WA, United States  
corporation)

PATENT ASSIGNEE(S):  
(U.S.

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5558855		19960924
APPLICATION INFO.:	US 1993-8172		19930125 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Raymond, Richard L.		
ASSISTANT EXAMINER:	Cebulak, Mary C.		
LEGAL REPRESENTATIVE:	Limbach & Limbach, L.L.P.		
NUMBER OF CLAIMS:	22		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1957		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 68 OF 68 USPATFULL  
 ACCESSION NUMBER: 96:87347 USPATFULL  
 TITLE: Phase shift colloids as ultrasound contrast agents  
 INVENTOR(S): Quay, Steven C., Pacific Palisades, CA, United States  
 PATENT ASSIGNEE(S): Sonus Pharmaceuticals, Bothell, WA, United States  
 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5558853		19960924
APPLICATION INFO.:	US 1994-182024		19940119 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-148284, filed on 8 Nov 1993 which is a continuation-in-part of Ser. No. US 1993-8172, filed on 25 Jan 1993		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Dees, Jose G.		
ASSISTANT EXAMINER:	Cebulak, Mary C.		
LEGAL REPRESENTATIVE:	Limbach & Limbach, Bengtsson, W. Patrick		
NUMBER OF CLAIMS:	48		
EXEMPLARY CLAIM:	1		
LINE COUNT:	2673		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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L10 ANSWER 68 OF 68 USPATFULL  
 SUMM Known **gaseous** agents include **microbubbles** stabilized by the addition of various amphiphilic materials to the aqueous media, by materials that increase viscosity, and gaseous precursors, . . .  
 DETD . . . effects in the pig (Ostensen J, Hede R, Myreng Y, Ege T, Holtz E.) Intravenous injection of Alburnex microspheres causes **thromboxane** mediated pulmonary hypertension in pigs, but not in monkeys or rabbits. Acta Physiol Scand 144: 307-315, 1992). At doses  
 as.  
 CLM What is claimed is:  
 28. The agent according to claim 27 wherein said chemical is selected from the group consisting of **perfluoropropane**, **perfluorobutane** and perfluoropentane.  
 33. The agent according to claim 32 wherein said chemical is selected from the group consisting of **perfluoropropane**, **perfluorobutane**, perfluoropentane and perfluorohexane.

42. The agent according to claim 41 wherein said chemical is selected from the group consisting of **perfluoropropane**, **perfluorobutane** and perfluoropentane.

47. The agent according to claim 46 wherein said chemical is selected from the group consisting of **perfluoropropane**, **perfluorobutane** and perfluoropentane.

IT 60-29-7, Diethyl ether, biological studies 64-17-5, Ethanol, biological studies 76-19-7, Perfluoropropane 78-78-4, Isopentane 106-97-8, Butane, biological studies 107-06-2, 1,2-Dichloroethane, biological studies 109-66-0, Pentane, biological studies 109-93-3, Vinyl ether 111-65-9, Octane, biological studies 111-84-2, Nonane 111-86-4, Octylamine 112-40-3, Dodecane 115-10-6, Methyl ether 122-32-7, Triolein 124-68-5, 2-Amino-2-methyl-1-propanol 151-67-7, Halothane 287-23-0, Cyclobutane 287-92-3, Cyclopentane 306-94-5, Perfluorodecalin 307-34-6, Perfluorooctane 335-95-5, Sodium perfluorooctanoate 335-99-9 **355-25-9**, Decafluorobutane 355-42-0, Perfluorohexane 374-51-6, Dodecafluoroneopentane 376-77-2, Perfluorocyclopentane 463-82-1, Neopentane 507-63-1, 1-Iodoperfluorooctane 678-26-2, Dodecafluoropentane 7732-18-5, Water, biological studies 30899-19-5, Pentanol 39660-55-4, Octafluoropentanol 91863-00-2 (phase-shift colloids as ultrasound contrast agents)